

Appl. No. 10/756,558
April 28, 2006
Reply to Final Office action of January 31, 2006

REMARKS

Claims 1-4, 6, 8-21, 23-26, 28-47, 49-61, 63-77 remain in this application. The examiner has acknowledged that claims 65-67 and 69-76 are directed to allowable subject matter. Claims 5, 7, 22, 27, 48, and 62 have been canceled.

I. CLAIM REJECTIONS – 35 USC § 102

A. Examiner's Statements

The examiner rejected claims 1, 7, 8, 10, 13, 16, 17, 20, 46, 49, 51, 57, 58, and 60 under 35 U.S.C. § 102(e) as being anticipated by Go Boncan, et al. (U.S. Patent Publication No. US 2003/0033893 A1). The examiner rejected claims 1, 3, 11, 12, 19, 22, 46, 52, 53, 62, and 77 under 35 U.S.C. § 102(b) as being anticipated by Jamth (U.S. Patent No. 5,571,951).

B. Law

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.¹ The identical invention must be shown in as complete detail as is contained in the ... claim.² To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient."³ Thus, the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish inherency of that result or characteristic.⁴ In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.⁵ In addition to disclosing every claim limitation, an anticipatory prior art reference must enable the practice of the invention and describe it sufficiently to have placed it in the possession of a person of ordinary skill in the field of the invention.⁶

¹ *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987).

² *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

³ *In re Robertson*, 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950-51 (Fed. Cir. 1999).

⁴ *In re Rijckaert*, 9 F.3d 1531, 1534, 28 U.S.P.Q.2d 1955, 1957 (Fed. Cir. 1993).

⁵ *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

⁶ *In re Paulsen*, 30 F.3d 1475, 1478-79 (Fed. Cir. 1994).

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C. Claims 1, 7, 8, 10, 13, 16, 17, 20, 46, 49, 51, 57, 58, and 60

Claims 1, 7, 8, 10, 13, 16, 17, 20, 46, 49, 51, 57, 58, and 60 of the present application require a curing vessel comprising a flexible sleeve at least partially inside a test vessel including a cavity, with first and second end caps engageable with the flexible sleeve, the inside of the curing vessel being sealed from the test vessel cavity. These claims also require either:

- (1) adjusting the cement temperature and pressure to a selected temperature and pressure while maintaining substantially no pressure differential between the inside and the outside of the flexible sleeve; or
- (2) adjusting the temperature and pressure of the test vessel to a selected temperature and pressure while maintaining substantially no pressure differential between the inside and the outside of the flexible sleeve until the test vessel reaches the selected temperature and pressure.

These claims also require measuring the change of the circumference of the flexible sleeve in the radial dimension with a first strain gauge. Go Boncan, et al., however, teaches using a mold as the curing vessel that does not have a flexible sleeve. Go Boncan et al. also never teaches sealing the fluid inside of the mold 50 from the fluid outside the mold 50 and within the test vessel 90. Go Boncan, et al. also never teaches maintaining substantially no pressure differential between the inside and the outside of the flexible sleeve. The examiner states that Go Boncan et al. teaches applying the pressure within the test vessel 90. However, the examiner states that to do so, Go Boncan et al. teaches that the pressure is distributed across the curing vessel 50 from outside the vessel 50, citing paragraph [0032]. As such, Go Boncan et al. does not teach sealing the fluid inside the mold 50 from the fluid outside the mold 50, as required by the claims. Thus, Go Boncan, et al. never discloses a curing vessel as required by these claims. The applicant there respectfully submits that the rejection is unsupported by the art and requests that the examiner withdraw the rejection with respect to claims 1, 7, 8, 10, 13, 16, 17, 20, 46, 49, 51, 57, 58, and 60.

D. Claims 1, 3, 11, 12, 19, 22, 46, 52, 53, 62, and 77

Claims 1, 3, 11, 12, 19, 22, 46, 52, 53, 62, and 77 of the present application require a curing vessel comprising a flexible sleeve at least partially inside a test vessel including a cavity, with first and second end caps engageable with the flexible sleeve, the inside of the curing vessel being sealed from the test vessel cavity. These claims also require either:

- (1) adjusting the cement temperature and pressure to a selected temperature and pressure

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- while maintaining substantially no pressure differential between the inside and the outside of the flexible sleeve; or
- (2) adjusting the temperature and pressure of the test vessel to a selected temperature and pressure while maintaining substantially no pressure differential between the inside and the outside of the flexible sleeve until the test vessel reaches the selected temperature and pressure.

These claims also require measuring the change of the circumference of the flexible sleeve in the radial dimension with a first strain gauge. However, Jamth teaches an apparatus and method in which the pipe 6 containing the concrete sample is placed in a chamber 1,1'. The chamber is heatable (coolable) in order to simulate the heat (cold) within a subsea well. The cement within the pipe 6 is placed under pressure by inserting gas inside the pipe 6 through inlet 16'. When the desired pressure inside the pipe 6 has been established, one may add an overpressure directly to the cement inside the pipe (differential pressure), in order to simulate a gas leak from the reservoir through radially directed channels, 18, 18' extending through the double chamber wall of the chamber 1,1' and the pipe 6.⁷ The direct channels 18, 18' extend all the way through the pipe 6 wall so that gas may be inserted to create an over pressure or differential pressure directly onto the cement itself rather than onto the outside wall of the pipe 6. This is because Jamth is attempting to simulate a gas leak from a formation and so fluid pressure must be placed directly on the cement within the pipe 6, not on the cement from outside the pipe 6. Notice that reference numeral 19 shows a filter that distributes this over pressure 360 degrees around the concrete sample and that the filter 19 is inside the pipe 6. Therefore, instead of placing pressure on the outside of the curing vessel 6, the inlet 16' and the channels 18,18' actually place the initial pressure and any optional overpressure on the inside of the pipe 6. Jamth does not teach balancing the pressure inside the pipe 6 with the pressure outside the pipe 6 at any time during the procedure. The examiner asserts that maintaining substantially no pressure differential between the inside and the outside of the curing vessel as the cement is introduced is taught by Jamth at column 2, lines 49-50:

The added differential pressure may be adjusted from 0-15 psi with an accuracy of 0.02 psi.

However, Jamth defines the term "differential pressure" as the overpressure above the simulated wellbore pressure that is added to the inside of the pipe 6 to simulate a gas leak from a formation. In Jamth, "differential pressure" does not mean the difference between the pressure inside the pipe 6 and

⁷ Jamth, Column 5, Lines 46-48.

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the pressure outside the pipe 6 but inside the chamber 1,1'. Thus, whether Jamth's "differential pressure" may be applied (0 psi.) has no bearing on the claims. In fact Jamth does not teach a way of measuring pressure at all outside the pipe 6. Additionally, Jamth does not teach measuring the change of the circumference of the flexible sleeve in the radial dimension with a first strain gauge. In fact Jamth does not teach measuring the circumference of the pipe 6 at all. Thus, Jamth never discloses a curing vessel as required by these claims. The applicant therefore respectfully submits that the rejection is unsupported by the art and requests that the examiner withdraw the rejection with respect to claims 1, 3, 11, 12, 19, 22, 46, 52, 53, 62, and 77.

II. CLAIM REJECTIONS - 35 U.S.C. § 103

A. Examiner's Statements

The examiner rejected claims 6, 18, 25, 29, 30, 32-34, 38-40, 43, 47, and 59 under 35 U.S.C. § 103(a) as being unpatentable over Jamth.

B. Law

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.⁸ If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

To establish a *prima facie* case of obviousness, the following tenets of patent law must be adhered to: (a) the claimed invention must be considered as a whole; (b) the references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination; (c) the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and (d) reasonable expectation of success is the standard with which obviousness is determined.⁹ Both the suggestion and the reasonable expectation of success must be founded in the prior art, not in the applicant's disclosure.¹⁰

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.¹¹ Thus, a statement that modifications of the prior art to meet the claimed invention would have been "well within the ordinary skill of the art at the time the claimed invention was made" because the references

⁸ *In re Rouffet*, 149 F.3d 1350, 1355, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

⁹ *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5 (Fed. Cir. 1986).

¹⁰ *In re Vaeck*, 947 F.2d 488, 493, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991).

¹¹ *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990); see also *In re Fritch*, 972 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992).

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relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references.¹² Additionally, a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention.¹³

Also, if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.¹⁴ In addition, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.¹⁵

C. Claim 6, 18, 25, 29, 30, 32-34, 38-40, 43, 47, and 59

Claims 6, 18, 47, and 59 depend on underlying base claims 1 and 46, and as such include all of the limitations of the respective underlying, independent claims. The applicant repeats the remarks made above for underlying independent claims 1 and 46 with respect to claims 6, 18, 47, and 59. The applicant submits that the underlying independent base claims 1 and 46 are allowable, and as such these dependent claims are allowable over Jamth as well. Therefore, the applicant respectfully requests that the examiner remove the rejection with respect to dependent claims 6, 18, 47, and 59 as well.

Claims 25, 29, 30, 32-34, 38-40, and 43 are not obvious in view of Jamth because Jamth does not teach or suggest all of the claims limitations. Claims 25, 29, 30, 32-34, 38-40, and 43 require adjusting the curing vessel fluid temperature and pressure to a selected temperature and pressure while maintaining substantially no pressure differential between the inside and the outside of the flexible sleeve. Claims 25, 29, 30, 32-34, 38-40, and 43 also require displacing a curing vessel fluid from within the curing vessel by introducing cement into the curing vessel while maintaining substantially no pressure differential between the inside and the outside of the flexible sleeve as the cement is introduced into the curing vessel. As remarked above regarding the teachings of Jamth, Jamth does not teach maintaining substantially no pressure differential between the inside and the outside of the pipe 6. Thus, Jamth never discloses a curing vessel as required by these claims and does not teach or suggest all of the

¹² *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993); see also *In re Kotzab*, 217 F.3d 1365, 1371, 55 U.S.P.Q.2d 1313, 1318 (Fed. Cir. 2000); *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 U.S.P.Q.2d 1161 (Fed. Cir. 1999).

¹³ *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

¹⁴ *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984).

¹⁵ *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (CCPA 1959).

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claim limitations. The applicant therefore respectfully submits that the rejection is unsupported by the art and requests that the examiner withdraw the rejection with respect to claims 25, 29, 30, 32-34, 38-40, and 43.

D. Claim 14 and 55

Claims 14 and 55 depend on underlying base claims 1 and 46, and as such include all of the limitations of the respective underlying, independent claims. The applicant repeats the remarks made above for underlying independent claims 1 and 46. The applicant submits that the underlying independent base claims 1 and 46 are allowable, and as such these dependent claims are allowable over Go Boncan et al. in view of Jamth as well. Therefore, the applicant respectfully requests that the examiner remove the rejection with respect to dependent claims 14 and 55.

III. ALLOWABLE SUBJECT MATTER

The examiner allowed claims 65-76.

The examiner stated that claims 2, 4, 9, 15, 21, 23, 24, 26, 28, 31, 35-37, 41, 42, 44, 45, 50, 56, 61, 63, and 64 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The applicant respectfully submits that base claims 1, 25, and 46 are in condition for allowance as discussed above. Therefore, the applicant respectfully requests that the examiner remove the objections to claims 2, 4, 9, 15, 21, 23, 24, 26, 28, 31, 35-37, 41, 42, 44, 45, 50, 56, 61, 63, and 64.

IV. STATEMENT REGARDING CLAIMS

The applicant comments on the allowability of the claims by addressing the examiner's comments in this paper as well as previously during the prosecution of this application. By doing so, the applicant is in no way limiting its ability to argue additional points of novelty regarding the independent claims or dependent claims at a later date.

CONCLUSION

The applicant respectfully requests reconsideration the pending claims and that a timely Notice of Allowance be issued in this case. If the examiner feels that a telephone conference would expedite the resolution of this case, he is respectfully requested to contact the undersigned.

In the course of the foregoing discussions, the applicant may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims

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must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. There may also be other distinctions between the claims and the prior art that have yet to be raised, but that may be raised in the future.

Unless the applicant has specifically stated that an amendment was made to distinguish the prior art, it was the intent of the amendment to further clarify and better define the claimed invention and the amendment was not for the purpose of patentability. Further, although the applicant may have amended certain claims, the applicant has not abandoned its pursuit of obtaining the allowance of these claims as originally filed and reserves, without prejudice, the right to pursue these claims in a continuing application.

If any fees are inadvertently omitted or if any additional fees are required or have been overpaid, please appropriately charge or credit those fees to Conley Rose, P.C. Deposit Account Number 03-2769 (ref. 1391-45600) of Conley Rose, P.C., Houston, Texas.

Respectfully submitted,
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